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Case No.: EO-2020-0262;
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Date Testimony Prepared: October 29, 2020

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

**FILE NO. EO-2020-0262
FILE NO. EO-2020-0263**

**DIRECT TESTIMONY
OF
TYLER COMINGS**

ON BEHALF OF SIERRA CLUB

October 29, 2020

REDACTED VERSION

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Ninth Prudence)	
Review of Costs Subject to the)	
Commission-Approved Fuel Adjustment)	Case No. EO-2020-0262
Clause of Evergy Missouri West, Inc. d/b/a)	
Evergy Missouri West)	
)	
In the Matter of the Third Prudence)	
Review of Costs Subject to the)	
Commission-Approved Fuel Adjustment)	Case No. EO-2020-0263
Clause of Evergy Metro, Inc. d/b/a Evergy)	
Missouri Metro)	


AFFIDAVIT

Pursuant to Missouri Public Service Commission Guidance released on March 24, 2020,

I, Tyler Comings, hereby state:

1. My name is Tyler Comings, and I am a Senior Researcher at Applied Economics Clinic. My business address is 1012 Massachusetts Avenue, Arlington, Massachusetts.
2. Attached hereto and made part hereof for all purposes is my Direct Testimony on behalf of Sierra Club, including exhibits, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.
3. I hereby swear and affirm that based upon my personal knowledge, the facts stated in the direct testimony are true. In addition, my judgment is based upon my professional experience, and the opinions and conclusions stated in the testimony are true, valid, and accurate.

Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge and belief.



Tyler Comings

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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your name, business address, and position.**

3 A. My name is Tyler Comings. I am a Senior Researcher at Applied Economics Clinic,
4 located at 1012 Massachusetts Avenue, Arlington, Massachusetts.

5 **Q. Please describe Applied Economics Clinic.**

6 A. The Applied Economics Clinic is a 501(c)(3) non-profit consulting group housed at
7 Tufts University’s Global Development and Environment Institute. Founded in
8 February 2017, the Clinic provides expert testimony, analysis, modeling, policy
9 briefs, and reports for public interest groups on the topics of energy, environment,
10 consumer protection, and equity, while providing on-the-job training to a new
11 generation of technical experts.

12 **Q. Please summarize your work experience and educational background.**

13 A. I have 14 years of experience in economic research and consulting. At Applied
14 Economics Clinic, I focus on energy system planning, costs of regulatory
15 compliance, wholesale electricity markets, utility finance, and economic impact
16 analyses. I am also a Certified Rate of Return Analyst (CRRA) and member of the
17 Society of Utility and Regulatory Financial Analysts (SURFA).

18 I have provided expertise for many public-interest clients including: American
19 Association of Retired Persons (AARP), Appalachian Regional Commission,
20 Citizens Action Coalition of Indiana, City of Atlanta, Consumers Union, District of
21 Columbia Office of the People’s Counsel, District of Columbia Government,
22 Earthjustice, Energy Future Coalition, Hawaii Division of Consumer Advocacy,

1 Illinois Attorney General, Maryland Office of the People’s Counsel, Massachusetts
2 Energy Efficiency Advisory Council, Massachusetts Division of Insurance,
3 Michigan Agency for Energy, Montana Consumer Counsel, Mountain Association
4 for Community Economic Development, Nevada State Office of Energy, New
5 Jersey Division of Rate Counsel, New York State Energy Research and
6 Development, Nova Scotia Utility and Review Board Counsel, Rhode Island Office
7 of Energy Resources, Sierra Club, Southern Environmental Law Center, U.S.
8 Department of Justice, Vermont Department of Public Service, West Virginia
9 Consumer Advocate Division, and Wisconsin Department of Administration.

10 I was previously employed at Synapse Energy Economics, where I provided expert
11 testimony and reports on power plant economics and utility system planning. Prior
12 to that, I performed research on consumer finance and behavioral economics at
13 Ideas42 and conducted economic impact and benefit-cost analysis of energy and
14 transportation investments at EDR Group.

15 I hold a B.A. in Mathematics and Economics from Boston University and an M.A.
16 in Economics from Tufts University.

17 My full resume is attached as Exhibit TC-1.

18 **Q. On whose behalf are you testifying in this case?**

19 A. I am testifying on behalf of Sierra Club.

20 **Q. Have you testified before the Missouri Public Service Commission previously?**

21 A. No, but I did submit direct testimony on July 30, 2020 in these dockets prior to the
22 issuance of Staff’s prudence reports and the Commission’s Order Setting

1 Procedural Schedule. The current version of my direct testimony is substantially
2 similar to the earlier one and is intended to supersede the earlier version. This
3 current version incorporates updated data both from Staff’s prudence reports and
4 from discovery responses from Staff and Evergy.

5 **Q. Have you co-authored comments on Integrated Resource Plans (IRPs) in**
6 **Missouri?**

7 A. Yes. I recently assisted the Sierra Club with comments on the 2020 Evergy Metro
8 and Evergy West IRP Updates (Case Nos. EO-2020-0280 and EO-2020-0281, filed
9 on May 18, 2020) and a stakeholder comment letter on Ameren’s 2020 IRP process
10 (sent on April 6, 2020).

11 **Q. Have you testified before other public utility commissions in other**
12 **jurisdictions?**

13 A. Yes. I have testified before commissions in Arizona, Colorado, the District of
14 Columbia, Hawaii, Indiana, Kentucky, Maryland, Michigan, New Jersey, New
15 Mexico, Ohio, Oklahoma, West Virginia, and Nova Scotia (Canada).

16 **Q. What is the purpose of your testimony?**

17 A. The focus of my testimony is to evaluate the variable costs, market revenues, and
18 energy market commitment practices and decisions for the coal units of Evergy
19 Metro and Evergy Missouri West (together “Evergy”) including: Hawthorn Unit 5,
20 Iatan Units 1 and 2, Jeffrey Units 1, 2, and 3, and LaCygne Units 1 and 2.

21

1 **Q. Please summarize your findings.**

2 A. Based on my review of the data provided by Evergy in this case, I conclude that:

3 **1. Evergy should commit its units on a “market” basis.** Evergy has recently
4 moved more towards “market” commitment of its coal units rather than
5 “self” commitment. This means that the decision whether or not to operate a
6 unit is more likely to be determined each day by the competition in the
7 energy market—Southwest Power Pool (“SPP”)—rather than pre-
8 determined by Evergy. Market (or “economic”) commitment should be
9 encouraged as it is beneficial for the SPP marketplace and likely for
10 Evergy’s ratepayers.

11 **2. If Evergy is self-committing its units, it must provide clear justification**
12 **for those decisions.** In discovery, Evergy was unable to provide
13 documentation to support its past decisions to self-commit its coal units
14 during the time period at issue in these dockets. Without such information, it
15 is impossible to assess whether self-commitment was prudent or if the utility
16 should have market-committed the units instead. Evergy should be required
17 to document its self-commitment decisions and retain such documentation;
18 in the absence of such documentation, costs related to self-commitment
19 should be disallowed in future fuel cases.

20 **3. Evergy understates the coal units’ variable costs, leading to long**
21 **periods of losses.** Whether the units are committed on a “market” or “self”
22 basis, the hourly bids provided to SPP should closely match the actual costs

1 reported by Evergy for fuel and variable operations and maintenance
2 (“O&M”) costs for extended periods. However, I find that Evergy routinely
3 underbids its coal units, leading them to operate more frequently than they
4 should have—whether self-committed or not. If the units were bidding a
5 reasonable variable cost, then they would be economically dispatched less
6 frequently. Understating variable costs leads to extended periods where the
7 units are losing money because their variable costs exceed the money they
8 collect. I estimate ** [REDACTED] ** in losses at the Jeffrey units due to Evergy
9 understating variable costs—or ** [REDACTED] ** in losses due to fuel costs
10 alone.

11 **4. Evergy should clearly delineate between variable and fixed O&M costs.**

12 Part of evaluating the units’ operations involves variable O&M, but it is
13 unclear if Evergy’s measure of these costs is accurate. Evergy uses a
14 simplistic breakdown to determine variable and fixed O&M costs (20
15 percent and 80 percent). It should employ a more sophisticated tracking of
16 variable and fixed O&M costs, especially for purposes of evaluating
17 commitment and dispatch decisions.

18 **Q. What are your recommendations?**

19 A. Based on my findings above, I recommend the following:

- 20 1. Evergy should commit its units on a market basis as often as possible.
- 21 2. If Evergy continues to self-commit its units, it must justify those actions
22 with an economic analysis that shows it is cost-effective and not discard that

1 analysis. Moving forward, the Commission should make clear to Evergy
2 that it will disallow costs associated with unit self-commitment without
3 documented economic analysis that supports the prudence of those
4 decisions. Evergy should be instructed to retain such documentation at least
5 until the Commission has closed the FAC prudence review docket covering
6 the applicable time period.

7 3. The Commission should disallow ** [REDACTED] ** or, at a
8 minimum, ** [REDACTED] ** at the Jeffrey units due to Evergy
9 understating the units' variable costs.

10 4. On average, Evergy's bids into the SPP market should be similar to its
11 reported fuel and variable O&M costs.

12 5. Evergy should differentiate between variable and fixed O&M costs so it can
13 report them more accurately going forward.

14 **II. EVERGY SHOULD CONTINUE ITS SHIFT AWAY FROM SELF-COMMITMENT.**

15 **Q. Please summarize this section.**

16 A. In this section, I discuss the commitment practices of Evergy Metro and Evergy
17 Missouri West regarding their coal units. At the outset of this prudence review
18 period, Evergy relied heavily on deciding when to operate its units ("self-
19 commitment") instead of relying on the SPP Integrated Marketplace ("IM") to
20 commit the units on a cost or market basis. However, in 2019, Evergy started to
21 lean more towards market-commitment. I discuss the merits of this change in their

1 commitment process. I also discuss the lack of underlying analysis of Evergy’s past
2 self-commitment decisions.

3 **Q. Please describe the difference between “market” and “self” commitment.**

4 A. Evergy Metro and Evergy Missouri West are members of the SPP IM, which
5 coordinates the movement of electricity in a large, multi-state region on a least-cost
6 basis. SPP optimizes the units that will be committed based on cost and operating
7 constraints—this process is called “centralized unit commitment.”¹ Participating
8 generators can be committed each day on a market basis or “self-commit.”² A market-
9 based commitment means that SPP determines if the unit should be operated that day
10 based on SPP’s own optimization of all the resources available to meet the next day’s
11 demand. A self-commitment means that the unit’s owner has decided that the unit
12 will operate that day at a minimum level (“economic minimum”).³ Because SPP does
13 not control whether these self-committed units are turned on that day, it takes these
14 minimum operating levels as-read. These self-committed units effectively bid zero
15 into the market, therefore they are committed prior to any market-committed units
16 with positive costs. Thus, the more units that are self-committed, the less likely that
17 market-committed units are to be chosen to operate on a given day and the less

¹ Southwest Power Pool Market Monitoring Unit, *Self-committing in SPP markets: Overview, impacts, and recommendations*, at 4 (Dec. 2019), available at: <https://spp.org/documents/61118/spp%20mmu%20self-commit%20whitepaper.pdf>.

² Units can also be committed on a “reliability” basis, which the Market Monitor describes as “the resource is off-line and is only available for centralized unit commitment if there is an anticipated reliability issue.” *Id.* at 5.

³ ‘Economic minimum’ operating level is an output threshold often determined operationally, and below which a generating unit is either less stable or operates inefficiently.

1 efficient the SPP market becomes.⁴

2 **Q. How are committed units dispatched by SPP?**

3 A. Once units are committed, their megawatts of output are determined on a least-cost
4 basis. In the day-ahead energy market, SPP projects hourly demand to occur the next
5 day and dispatches available generators to operate in order to serve that demand. In
6 the real-time market, generators are dispatched at five-minute intervals in order to
7 serve fluctuations in load that were not anticipated in the day-ahead forecast.

8 Owners of generating units typically bid the variable cost of the unit, i.e., the cost it
9 takes the unit to produce the next unit of energy, or variable costs. SPP optimizes the
10 committed units' variable costs until demand is satisfied. The highest-cost unit that
11 is dispatched (the "marginal unit") sets the energy price or locational marginal price
12 ("LMP"), factoring in transmission limitations. The further a unit's variable costs are
13 below that energy price and the more power it produces, the more profitable the unit
14 will be over the time period it is operating. If the unit's variable costs are above that
15 market price, SPP will not dispatch the unit—barring the unit's operating constraints.

16 **Q. Once the units are committed, is the dispatch process different for self- and**
17 **market-committed units?**

18 A. Yes. While SPP optimizes the costs of all committed units in order to determine the
19 level at which to operate them, it has more control over the level that market-based
20 units will operate. SPP can dispatch self-committed units above their economic

⁴ Southwest Power Pool Market Monitoring Unit, *Self-committing in SPP markets: Overview, impacts, and recommendations*, at 6-9 (Dec. 2019), available at: <https://spp.org/documents/61118/spp%20mmu%20self-commit%20whitepaper.pdf>.

1 minimum level if it is cost-effective for the system. However, it must at least operate
2 these units at their economic minimums when the unit owner dictates.⁵

3 **Q. Did Evergy Metro and Evergy Missouri West recently shift away from self-**
4 **commitment towards market commitment?**

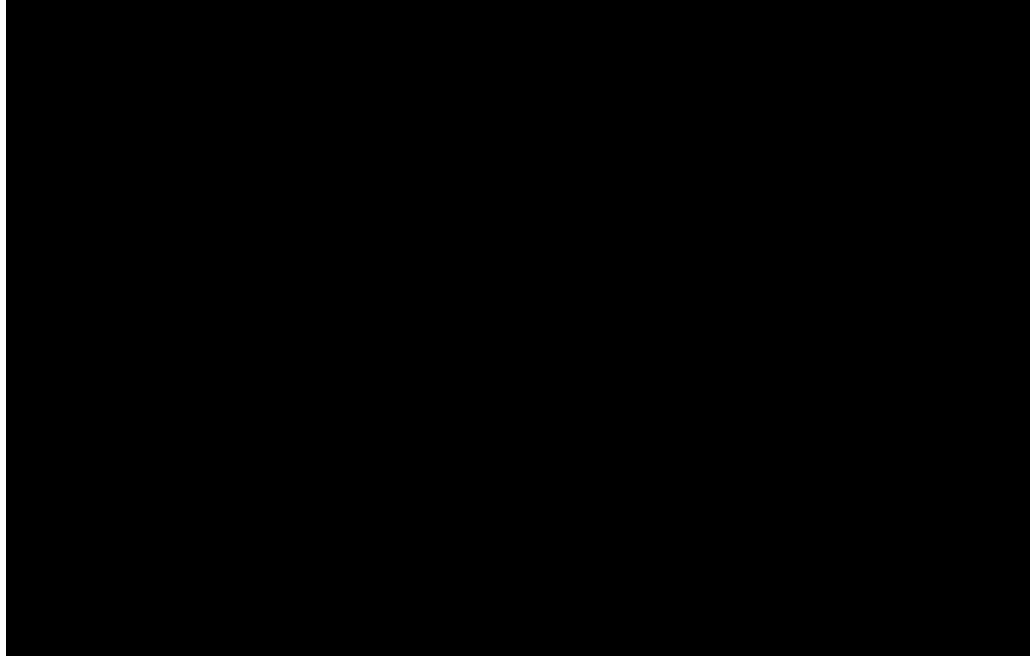
5 A. Yes, ** [REDACTED] **. I analyzed the hourly commitment
6 status of each of Evergy’s units and summarized them by month and year. For each
7 of the Evergy Metro and Missouri West coal units, the figures below show the
8 percentage of generation that was self-committed in 2018 and 2019 (when not on an
9 outage).⁶ The ** [REDACTED] ** and ** [REDACTED] ** units show the most ** [REDACTED] **
10 ** [REDACTED] ** in 2019. ** [REDACTED] ** and ** [REDACTED] ** show
11 ** [REDACTED] **, but this was ** [REDACTED] **; the
12 overall level of self-commitment was relatively ** [REDACTED] **. When not on an outage,
13 ** [REDACTED] ** was ** [REDACTED] ** market-committed starting July 2019
14 and ** [REDACTED] ** was ** [REDACTED] ** market-committed. For each unit, the
15 percentage of hours that are self-committed, market-committed, or on an outage are
16 provided by month in Exhibit TC-2.

⁵ Other units are “self-scheduled” by the owners because they are not dispatchable, e.g. wind farms. This testimony focuses on dispatchable coal units. *Id.* at 28. Evergy also stated that it self-schedules the units for “testing, environmental compliance needs or if there is a unit reliability concern.” Evergy Response to Sierra Club Data Request 1.2(a).

⁶ All of the data on commitment in this section comes from Evergy Response to Sierra Club Data Request 1.2 CONFIDENTIAL, and it excludes outages. Corrected unit data was provided in QSierra Club-2.4_CONF_Iatan 1 MO West Dispatch and Settlements CORRECTED, QSierra Club-2.4A_CONF_Iatan 2 MO West Dispatch and Settlements CORRECTED V2, and QSierra Club-2.3_CONF_Jeffrey 3 MO West Dispatch and Settlements CORRECTED and Sierra Club 2.3c. ** [REDACTED] **

1
2

**Figure 1: Evergy Metro Units, % of Generation Self-Committed
CONFIDENTIAL⁷**

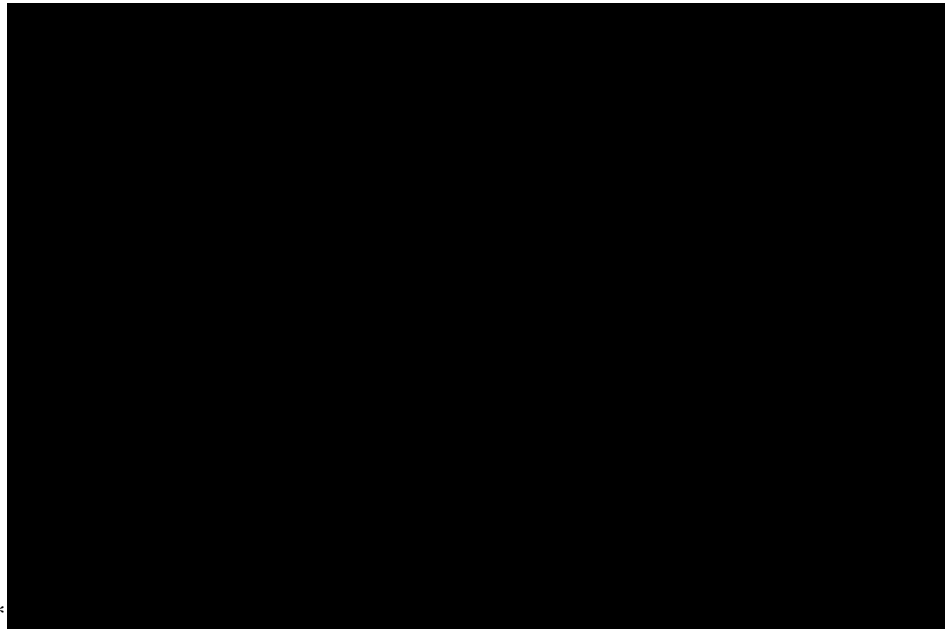


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**Figure 2: Evergy Missouri West Units, % of Generation Self-Committed
CONFIDENTIAL⁸**



8

**

**

⁷ *Id.*

⁸ *Id.*

1 **Q. Has Evergy stated that it has shifted away from self-commitment?**

2 A. Yes. When asked about its self-commitment decision process, Evergy stated that:

3 ...unit commitment decisions are not made as they were in the
4 past. The Company currently offers its coal-fired generation in
5 Market commit status a majority of the time.⁹

6 This statement bears out in the data provided by Evergy.

7 **Q. Has Evergy acknowledged that self-commitment ** [REDACTED]**
8 **[REDACTED] **?**

9 A. Yes. Evergy stated that it “** [REDACTED]
10 [REDACTED].**”¹⁰ Thus, the Company acknowledges
11 the ** [REDACTED] ** resulting from self-commitment.

12 **Q. Has the SPP market monitor discouraged utilities from self-commitment?**

13 A. Yes. The SPP market monitor has recently focused on self-commitment practices in
14 the marketplace. In 2019, the market monitor released a whitepaper that included an
15 in-depth analysis on the impacts of self-commitment in SPP.¹¹ The market monitor
16 also discusses and tracks self-commitment data in its quarterly and annual State of
17 the Market reports.

18 In the 2018 Annual State of the Market report, the market monitor described how
19 self-committed resources distort the market, stating that:

⁹ Evergy Response to Sierra Club Data Request 1.4(c).

¹⁰ Evergy Response to Staff Data Request 0055(2) CONFIDENTIAL.

¹¹ Southwest Power Pool Market Monitoring Unit, *Self-committing in SPP markets: Overview, impacts, and recommendations*, (Dec. 2019), available at: <https://spp.org/documents/61118/spp%20mmu%20self-commit%20whitepaper.pdf>.

1 Self-commitment of generation continues to be a concern
2 because it does not allow the market software to determine the
3 most economic market solution.¹²

4 And:

5 These resources are not appropriately evaluated in the current
6 market structure and can be committed by market participants
7 during uneconomic periods.¹³

8 In the 2019 Annual State of the Market report, after its 2019 analysis of self-
9 commitment, the market monitor stated that:

10 ... it is imperative to minimize the need to self-commit resources
11 to realize the full benefits of SPP's market. While there may not be
12 a single reason causing market participants to self-commit
13 resources, there can be ways that SPP and its stakeholders can
14 work to minimize the incentives to self-commit.¹⁴

15 It appears that utilities have started to address this concern. In the most recent
16 quarterly State of the Market for Spring 2020, the SPP market monitor noted that
17 self-commitment has been on a "downward trend with approximately 19 percent of
18 commitments with this status in spring 2020, down from 25 percent

¹² Southwest Power Pool Market Monitoring Unit, State of the Market Report 2018, at 5 (May 15, 2019), available at: <https://www.spp.org/documents/59861/2018%20annual%20state%20of%20the%20market%20report.pdf>.

¹³ *Id.* at 243.

¹⁴ Southwest Power Pool Market Monitoring Unit, State of the Market 2019, at 287 (May 11, 2020), available at: <https://www.spp.org/documents/62150/2019%20annual%20state%20of%20the%20market%20report.pdf>.

1 in spring 2018 and 24 percent in spring 2019.”¹⁵ The market monitor stated that,
2 although this was a “a positive trend, we continue to encourage market participants
3 and the RTO to find ways to enhance market efficiencies and reduce self-
4 commitment.¹⁶

5 **Q. Are some units self-committed because they have long start up and shut down**
6 **times?**

7 A. Yes. The day-ahead market in SPP asks for hourly bids one day in advance and
8 commits units each day. But coal and nuclear units have long start up and shut
9 down times (also called ramping and de-ramping, respectively). Thus, they are not
10 able to cycle on or off easily. This leads some operators, like Evergy, to conduct
11 their own analysis of when to commit the units and then sometimes self-commit
12 into the SPP market. But this is not efficient because many different owners are
13 conducting their own analyses of when to operate their own units, using
14 inconsistent information from one another, and without the knowledge of the costs
15 of other units that they are competing against in the market. The more units move
16 away from self-commitment towards market commitment, the more efficient that
17 market will function.¹⁷ In order to encourage this shift, the market monitor
18 recommends that SPP change to a two-day ahead commitment process rather than

¹⁵ Southwest Power Pool Market Monitoring Unit, State of the Market Spring 2020, at 21 (July 20, 2020), available at:

https://www.spp.org/documents/62618/spp_mmu_qsom_spring_2020.pdf.

¹⁶ *Id.*

¹⁷ *See* Southwest Power Pool Market Monitoring Unit, State of the Market 2019, at 18 (May 11, 2020), available at:

<https://www.spp.org/documents/62150/2019%20annual%20state%20of%20the%20market%20report.pdf>.

1 one-day ahead.¹⁸ This move would discourage owners from doing their own side
2 calculation and instead subject their units to market competition.

3 **Q. Did Evergy adequately justify its past self-commitment decisions in this**
4 **prudence review period?**

5 A. No. While Evergy has apparently moved away from self-commitment, there is no
6 data supporting its decisions to self-commit the units in this prudence review
7 period. When asked for supporting documentation to justify self-commitment
8 decisions during the prudence review window of these dockets, the Company was
9 unable to provide any, stating that:

10 Documentation as requested does not exist. Analyses performed to
11 inform the determination of commitment status were temporary
12 and ad-hoc in nature...¹⁹

13 And:

14 Analyses of the market, whether to inform a unit commitment
15 decision or other, happen frequently and are not tracked by the
16 Company. Typically, when a generating unit had a commitment
17 status of Self during the prudence review period the market was
18 analyzed.²⁰

19 As a general practice, if utilities are self-committing units, they must keep a record
20 of the analyses underlying those decisions because the costs involved in these
21 decisions can be significant. Evergy itself has acknowledged that it has moved
22 towards market commitment to “** [REDACTED] .**”²¹ Yet, as it

¹⁸ *Id.*

¹⁹ Evergy Response to Sierra Club Data Request 2.1(b).

²⁰ Evergy Response to Sierra Club Data Request 2.1(a).

²¹ Evergy Response to Staff Data Request 0055(2) CONFIDENTIAL.

1 stands, in these two cases, Staff and the Commission cannot fully review the
2 prudence of those self-commitment decisions.

3 **Q. With the data that was available, did Staff adequately address the self-**
4 **commitment issue in its prudence reports?**

5 A. No. Staff’s prudence review of the issue concluded that it “was not aware of any
6 prudency issues” related to Evergy’s self-commitment practices.²² However, this
7 conclusion was based on a limited analysis and inadequate justifications, for several
8 reasons:

9 First, Staff ignored the Jeffrey units in its self-commitment analysis. Staff stated
10 that it requested data for all units but was not given data for the Jeffrey units.²³ It
11 later requested this information from the Company but not in time to include this
12 information in its prudence review.²⁴

13 Second, Staff has continually stated that it does not have the data to analyze the
14 impact of self-commitment practices:

15 Staff maintains that in order to fully understand the economic
16 impact of self-scheduling on a given unit’s profitability, an
17 analysis at the RTO level would need to be conducted. Due to
18 the highly confidential nature of utilities’ market bidding
19 strategies, it is highly unlikely that any party other than SPP or
20 MISO have the raw data, modeling software access, and

²² Staff’s Ninth Prudence Review of Evergy Missouri West, File No. EO-2020-0262 (“Staff’s Evergy West Report”) at 16; Staff’s Third Prudence Review Report of Evergy Missouri Metro, File No. EO-2020-0263 (“Staff’s Evergy Metro Report”) at 17.

²³ Staff Response to Sierra Club Data Request 1.2, File No. EO-2020-0262.

²⁴ *Id.*

1 resources to conduct such an extensive analysis of market
2 trends.²⁵

3 However, this reinforces the efficiency of the market commitment practice because
4 (as I discussed above) SPP is the best arbiter of what should and should not be
5 committed. If multiple utilities are self-committing their units, each utility does not
6 know the bases for the others' decisions. They are competing with each other but
7 with little information. But if all are units market committed, then SPP holds the
8 cards and can objectively commit units on a purely economics basis—assuming the
9 bid information provided is accurate. Therefore, Staff's claim that only SPP can
10 conduct a detailed analysis of the impact of self-commitment bolsters the argument
11 that the practice of self-commitment is inefficient.

12 Third, Staff used the recent trend of decreasing self-commitment in SPP (as I
13 referred to previously) in part to justify the conclusion that there is no prudence
14 issue with the Evergy units.²⁶ But Staff's comments refer to recent trends in the
15 SPP market, whereas the review period at issue in this case is retrospective and
16 focused on Evergy alone. The regulatory question here is whether Evergy prudently
17 committed its units during the review period, regardless of its recent decision-
18 making and recent trends in SPP as a whole.

19 Finally, when Staff analyzed self-commitment data, it looked at “in the money” and
20 “out of the money” transactions, i.e., where energy revenue exceeded variable costs

²⁵ Staff's Evergy West Report at 15-16 and Staff's Evergy Metro Report at 16-17. Both passages cite to Staff's Second Supplemental Report, File No. EW-2019-0370, at 1-2.

²⁶ Staff's Evergy West Report at 16 and Staff's Evergy Metro Report at 17.

1 or vice versa, for the review period.²⁷ But this analysis apparently took the hourly
2 variable costs provided by Evergy at face value, and as mentioned above did not
3 review the revenues and costs of the Jeffrey units. In the next section of my
4 testimony, I provide an analysis showing that Evergy's variable costs were
5 understated, leading to losses at the Jeffrey units. As far as I could tell, Staff did not
6 question the variable costs used in Evergy's bids, and it admittedly neglected to
7 address the Jeffrey units' revenues and costs in its self-commitment analysis
8 altogether.

9 **Q. What are your conclusions regarding Evergy's commitment practices?**

10 A. First, Evergy's shift towards market-commitment and away from self-commitment
11 is a positive development. This shift, especially if continued, will lead to a more
12 efficient wholesale market where ratepayers acquire their energy needs. However,
13 the review period at issue is retrospective and Evergy's past decisions are more
14 relevant to this case. Ratepayers should not pay the variable costs to run units when
15 those units are not competitive in the marketplace. Second, Evergy should have
16 justified its past self-commitment decisions and, if it continues to self-commit, it
17 must adequately justify such decisions going forward. Future self-commitment
18 decisions should be justified and documented or else deemed imprudent. Third,
19 despite a lack of evidence provided by Evergy for the review period, Staff should
20 have more heavily scrutinized self-commitment in its prudence review, and should
21 do so in future prudence reviews.

²⁷ Staff's Evergy West Report at 14-15 and Staff's Evergy Metro Report at 15-16.

1 **III. THE VARIABLE COSTS OF EVERGY'S COAL UNITS NEED CLARITY.**

2 **Q. Please summarize this section.**

3 A. In this section, I discuss my analysis of the costs and revenues of Evergy's coal units.
4 I find that the variable costs of Evergy's units that are used for SPP dispatch are
5 understated relative to the actual costs of fuel and variable O&M reported by Evergy
6 in this case. Also, Evergy's estimate of variable O&M is too simplistic and should be
7 refined to arrive at a more accurate estimate.

8 **Q. Should Evergy collect sufficient revenue to cover variable costs for its units?**

9 A. Yes. Generating units require fixed costs to be available to operate (including fixed
10 operations and maintenance or O&M, and capital costs) and variable costs
11 (including fuel and variable O&M) for each megawatt hour of generation. If a unit
12 is being perfectly committed and dispatched on an economic basis, it operates only
13 when its variable costs are at or below the energy revenue it will collect—i.e., it has
14 positive net revenue. If the unit operates at a loss—i.e., negative net revenue—
15 ratepayers would have been better off not paying for the variable costs to run that
16 unit because the market revenue was not sufficient to cover those costs. Because
17 coal units take many hours to ramp and de-ramp, there can be consecutive hours
18 where the unit is operating at a loss; but over a longer period, the unit should be
19 making money or breaking even. Moreover, units that are market-committed by

1 SPP also collect “make whole” payments to ensure that generators collect enough
2 revenue to cover their variable costs for market-committed units.²⁸

3 **Q. If a unit makes money or breaks even over the entire FAC review period, does**
4 **that prove that the unit was operated prudently?**

5 A. No. At a minimum, generators that are prudently operated should break even or
6 have positive net revenues over an extended period. Staff’s prudence review of self-
7 commitment practices only presented the net revenues for the entire review period
8 (except for the Jeffrey units).²⁹ But, given the information available at the time,
9 each unit could have received even higher net revenues because either: 1) it was too
10 costly during that period and its operations should have been decreased; or 2) it was
11 more competitive during that period and its operations should have been increased.
12 In either case above, even if the unit had positive net revenue, the unit was not
13 operated prudently.

14 **Q. Should the variable costs of the units be consistent with what is provided to the**
15 **wholesale market?**

16 A. Yes, over an extended period. While costs fluctuate for different operating levels,
17 for instance due to the units’ heat rate, the costs per MWh over a long period
18 provided to the wholesale market should be consistent with actual costs incurred by
19 the utility. As I mentioned previously, Staff apparently took Evergy’s variable costs
20 at face value rather than closely examining them. But if the utility is continually

²⁸ See Southwest Power Pool, Make-Whole Payments (Apr. 12, 2012), available at:
[https://www.spp.org/documents/17009/mwp%20sug%20presentation_april2012%20\(no%20notes\).pdf](https://www.spp.org/documents/17009/mwp%20sug%20presentation_april2012%20(no%20notes).pdf).

²⁹ Staff’s Evergy West Report at 14-15 and Staff’s Evergy Metro Report at 15-16.

1 understating variable costs when submitting its bid into the wholesale market, the
2 unit could be committed and/or dispatched more often than it should. In this case,
3 ratepayers would be overcharged if the unit’s market revenue did not cover its true
4 variable costs or its “net revenue” was negative.

5 **Q. Please explain how you analyzed the variable costs of Evergy’s coal units.**

6 A. I reviewed the hourly data provided by the Company for commitment status,
7 generation, SPP market revenue, and the bids submitted to SPP.³⁰ I also reviewed
8 the actual fuel and variable O&M costs that Evergy reports on a monthly and
9 quarterly basis, respectively.³¹ In broad steps, my analysis of the data included the
10 following:

- 11 1. I calculated the hourly bid costs of each unit using the same data that Evergy
12 uses to construct its bids into SPP each hour.
- 13 2. I generated the net revenues for each hour by calculating the difference in bid
14 costs (multiplied by the MWhs generated) and the reported hourly revenue from
15 SPP.
- 16 3. I calculated monthly variable costs using actual fuel and variable O&M
17 spending. To be conservative (i.e., in Evergy’s favor), I took the lowest of two
18 possible variable cost concepts: a) the six-month average of previous fuel and

³⁰ Evergy Response to Sierra Club 1.2 CONF attachments for each unit.

³¹ Southwest Power Pool, Make-Whole Payments (Apr. 12, 2012), available at:
[https://www.spp.org/documents/17009/mwp%20sug%20presentation_april2012%20\(no%20notes\).pdf](https://www.spp.org/documents/17009/mwp%20sug%20presentation_april2012%20(no%20notes).pdf).

1 variable O&M costs, and b) the actual fuel and variable O&M costs incurred in
2 the current month. In order to mirror the information that Evergy would have
3 had at the time of its decisions, I use historical costs (as of the current month)
4 but allow for the possibility of lower costs from the current month—assuming
5 those costs could have been anticipated.

6 4. I calculated the net revenue using this variable cost for two concepts: a) net
7 revenue for all hours of the month, and b) net revenue excluding outage hours in
8 each month. For months that had negative net revenue, I filtered out those
9 months where more than 30 percent of the hours had outages.

10 5. Finally, I took the smallest net revenue loss between the two concepts above.
11 This was a conservative approach that favored Evergy by taking the most
12 favorable outcome in each month.

13 **Q. During which time periods did you evaluate the costs and revenues of the**
14 **units?**

15 A. After reviewing and analyzing hourly data on operations and bid information, as
16 well as monthly fuel costs and quarterly variable costs, I estimated the net revenues
17 of each unit on a monthly basis. The monthly timeframe closely matches the period
18 of the Company’s “31-day profit and loss projection” that Evergy performs on the
19 units.³²

³² Evergy Response to Sierra Club 2.1(c).

1 Q. Did you find that the units had positive net revenues on a monthly basis, based
2 on Evergy's bid cost information?

3 A. ** [REDACTED]
4 [REDACTED]
5 [REDACTED].**³³

6 Q. Did you find that the monthly and annual variable costs reported by Evergy
7 were higher than what it used in its bid information?

8 A. Yes. On average, Evergy's reported costs of fuel and variable O&M ("VOM") were
9 higher than what it used to develop its bids into SPP. Tables 1 and 2, below, depict
10 the comparison of annual costs for Evergy Metro and Evergy Missouri West.³⁴ As
11 shown here, some of the variable costs are substantially higher than the weighted-
12 average cost bid into SPP. For instance, the Jeffrey units' costs were approximately
13 ** [REDACTED] ** than the units' bids.

³³ ** [REDACTED] **

³⁴ Fuel costs are reported by month in response to Staff: Q0007_CONF EO-2020_0262_MPSC_20200316_Fuel Stats [each month]. I used the ** [REDACTED] ** from these reports, not the ** [REDACTED] ** which is the higher of the two. Variable O&M is reported in QSierra Club-2.5_CONF_VOM 2015-2016-2017-2019 thru 12-31-19 and Q1.3_CONF_VOM 2015-2016-2017-2019 thru 09-30-19. All costs shown are weighted averages using the units' generation in that month. Individual unit data from Company response to SC 1.2 CONFIDENTIAL attachments. Bid cost calculated from ** [REDACTED] ** tabs for each unit. Fuel costs are the lowest of 1) the average of the previous six months, and 2) the current month. Variable O&M is the lowest of (a) the average of the previous two quarters and (b) the current quarterly average.

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Table 1: Evergy Metro Bid Costs vs. Variable Costs (\$/MWh)
CONFIDENTIAL³⁵

	Bid cost (\$/MWh)		Fuel and VOM (\$/MWh)		% increase	
2018						
Hawthorn 5	**		**	**	**	**
Iatan 1	**		**	**	**	**
Iatan 2	**		**	**	**	**
LaCygne 1	**		**	**	**	**
LaCygne 2	**		**	**	**	**
2019						
Hawthorn 5	**		**	**	**	**
Iatan 1	**		**	**	**	**
Iatan 2	**		**	**	**	**
LaCygne 1	**		**	**	**	**
LaCygne 2	**		**	**	**	**

**

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Table 2: Evergy Missouri West Bid Costs vs. Variable Costs (\$/MWh)
CONFIDENTIAL³⁶

	Bid cost (\$/MWh)		Fuel and VOM (\$/MWh)		% increase	
2018						
Iatan 1	**		**	**	**	**
Iatan 2	**		**	**	**	**
Jeffrey 1	**		**	**	**	**
Jeffrey 2	**		**	**	**	**
Jeffrey 3	**		**	**	**	**
2019						
Iatan 1	**		**	**	**	**
Iatan 2	**		**	**	**	**
Jeffrey 1	**		**	**	**	**
Jeffrey 2	**		**	**	**	**
Jeffrey 3	**		**	**	**	**

**

**

See note 27.

³⁶ See note 27. The analysis incorporates ** [REDACTED] ** made by Evergy in response to Sierra Club Data Request 2.7(c) and Q1.3S CONF JEC Incremental Coal Prices for Market Offers. I accounted for the ** [REDACTED] ** so the

1 **Q. When using actual variable costs, rather than bid costs, were there net revenue**
2 **losses in some months?**

3 A. Yes. As previously described, I took several steps to be conservative (i.e., in
4 Evergy's favor) in my analysis—taking the more favorable result to the Company
5 where possible. I calculated net revenues using the lowest of the previous six
6 months' variable cost and that of the current month.³⁷ I then took the most
7 favorable of two monthly net revenues, one using all hours of the month and
8 another excluding outages. Finally, only months where the units were on an outage
9 less than 30 percent of the time were included.

10 I found that the Jeffrey units, which shown above had the largest difference in bid
11 costs and actual costs, had negative net revenues in several months—shown in
12 Table 3. From September 2018 through December 2019, this resulted in ** [REDACTED]
13 [REDACTED] ** This represents overcharging of variable costs to ratepayers because
14 the units were less competitive than what was indicated to SPP and customers
15 would have been better off had the units had operated less frequently in these
16 months.

17 Based on the differences in fuel and variable O&M costs, I allocated the share of
18 losses attributable only to fuel costs: ** [REDACTED] **. This represents the amount of
19 fuel costs that should have been avoided at these units. If the Commission can only
20 disallow fuel costs (and not variable O&M costs) in this docket, then it should
21 disallow this latter amount.

impact of those ** [REDACTED] ** did not impact the monthly net revenue losses.

³⁷ I also excluded one month where ** [REDACTED] **

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Table 3: Monthly Net Revenue Losses (\$) CONFIDENTIAL³⁸

Unit	Year	Month	Losses	Losses from fuel only	Self-commit % (non-outage)
** [REDACTED] **	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
** [REDACTED] **	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
** [REDACTED] **	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
	** [REDACTED] **	[REDACTED]	** [REDACTED] **	** [REDACTED] **	** [REDACTED] **
TOTAL			** [REDACTED] **	** [REDACTED] **	

**

**

2 **Q. Should Evergy have operated its units less often during the months of losses?**

3 A. Yes. Because the monthly variable costs were higher than what Evergy used to
 4 determine dispatch, the units were operated more than was economic during these
 5 periods. Notably, most of the losses occurred in months where the units were self-
 6 committed a majority of the MWh. However, there were still losses when the units
 7 were market-committed because the market's cost information was understated by
 8 Evergy.

³⁸ See Southwest Power Pool, Make-Whole Payments (Apr. 12, 2012), available at: [https://www.spp.org/documents/17009/mwp%20sug%20presentation_april2012%20\(no%20notes\).pdf](https://www.spp.org/documents/17009/mwp%20sug%20presentation_april2012%20(no%20notes).pdf); See also notes 26, 27.

1 **Q. Is it still unclear what the correct variable costs are for these units?**

2 A. Yes. Instead of allocating each cost to variable or fixed O&M, the Company uses a
3 simple calculation to allocate non-fuel O&M costs as 80 percent to fixed O&M and
4 20 percent to variable O&M. Evergy's justification for this allocation is from a
5 study done in 2003.³⁹ Evergy should take a more sophisticated approach to
6 measuring variable O&M as this is a key component of the variable costs that
7 determine whether the units will operate.

8 **Q. What are your conclusions regarding the coal units' variable costs?**

9 A. First, I find that Evergy has continually understated its units' variable costs when
10 submitting its bids into the SPP market. This led some units to operate more than
11 they should have, producing net revenue losses during those months. Second, I find
12 that Evergy's reported variable O&M should be calculated more accurately by
13 tracking costs as fixed or variable as they occur—rather than assuming a simple
14 allocation between the two categories.

15 **Q. Does this conclude your testimony?**

16 A. Yes.

³⁹ Evergy Response to Sierra Club 2.5(a).